



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/868,930	10/16/2001	Jacques Delarge	P66806US0	9910

136 7590 12/09/2003
JACOBSON HOLMAN PLLC
400 SEVENTH STREET N.W.
SUITE 600
WASHINGTON, DC 20004

EXAMINER

COLEMAN, BRENDA LIBBY

ART UNIT	PAPER NUMBER
----------	--------------

1624

DATE MAILED: 12/09/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/868,930

Applicant(s)

DELARGE et al.

Examiner

Brenda Coleman

Art Unit

1624



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Sep 2, 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-44 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

Art Unit: 1624

DETAILED ACTION

Claims 23-44 are pending in the application.

This action is in response to applicants' amendment filed September 2, 2003. Claims 12-22 have been canceled and claims 23-44 are newly added.

Response to Amendment

Applicant's amendments filed September 2, 2003 have been fully considered with the following effect:

1. With regards to the 35 U.S.C. § 112, first paragraph rejection of claims 12, 13, 18 and 20-22, labeled paragraph 2 in the last office action, the applicants' arguments have been fully considered, however they were not found persuasive.

In evaluating the enablement question, several factors are to be considered. *In re Wands*, 8 USPQ2d 1400 (Fed. Cir. 1988); *Ex parte Forman*, 230 USPQ 546. The factors include: 1) The nature of the invention, 2) the state of the prior art, 3) the predictability or lack thereof in the art, 4) the amount of direction or guidance present, 5) the presence or absence of working examples, 6) the breadth of the claims, and 7) the quantity of experimentation needed.

HOW TO MAKE: The nature of the invention in the instant case, has claims which embrace a wide range of chemically and physically distinct compounds, wherein "R₁ and Y₁, and/or, R₂ and Y₂ form a saturated or unsaturated heterocyclic group having 5 to 7 ring members of which at least one is oxygen or nitrogen". The scope of the compounds of claims 23, 24, 29, 31-35, 40 and 42-44 reads on a plethora of heterocyclic rings with respect to the variables R₁ and

Art Unit: 1624

Y_1 , and/or, R_2 and Y_2 . The exact nature of these variables are vague and indefinite in that it is not clear exactly how large the substituent may be; the position of the heteroatoms in the heterocyclic moiety; the size, position or point of attachment of the heterocyclic moieties; etc. While several specific compounds are disclosed, there is insufficient guidance for preparing additional compounds which would be effective in the following utilities: "e.g. thromboxan A2 receptor".

There are several preferred embodiments disclosed herein. One preferred embodiment of the instant invention is compounds where R_1 and Y_1 form a morpholine or homopiperidine group and R_2 and Y_2 form a homopiperidine group as described on page 3, lines 1-3. However, this does not provide enablement for other heterocyclic groups which may have a nitrogen or oxygen atom, such as pyran, pyrrole, oxazole, etc.

Testing is provided for only a few of the claimed compounds at pages 26 and 28 of the specification. Examples should be of sufficient scope as to justify the scope of the claims. However, the generic claims are much broader in scope than is represented by the testing. Note the broad definitions for R_1 and Y_1 , and/or, R_2 and Y_2 in the generic claims which are defined as forming a heterocyclic group having 5 to 7 ring members of which at least one is oxygen or nitrogen. These definitions embrace many structurally divergent groups not represented in the testing. Markush claims must be provided with support in the disclosure. Markush claims are subject to rejection based upon the lack of supporting disclosure when the "working examples" fail to include written description(s) which teach how to make and use Markush members embraced thereby in full, clear, and exact terms. See *In re Fouche* 169 USPQ 429. The

Art Unit: 1624

compounds tested are not seen as adequately representative of the compounds encompassed by the extensive Markush groups instantly claimed for the uses instantly asserted and claimed.

In view of the breadth of the claims, the unpredictability in this area of activity, and the limited amount of guidance and examples in the specification, one skilled in the art would have to undergo an undue amount of experimentation to prepare the claimed compounds.

Claims 23, 24, 29, 31-35, 40 and 42-44 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. For reasons of record and stated above.

2. The applicant's amendments and arguments are sufficient to overcome the 35 USC § 112, first paragraph rejection of claims 21 and 22, labeled paragraph 3 in the last office action, which is hereby **withdrawn**.

3. The applicant's amendments and arguments are sufficient to overcome the 35 U.S.C. § 112, second paragraph rejections labeled a), b), c), d), e), f), g), h), i), k), l), m), n), o), p), q), s), t), u), v), w), x), y), z), aa), ab), ac), ad), ae) and af) of the last office action, which are hereby **withdrawn**. However, with regards to the 35 U.S.C. § 112, second paragraph rejection labeled j), r) and ag) the applicant's amendments and remarks have been fully considered but they are not persuasive.

Art Unit: 1624

- j) The applicants' stated that the "Applicant has rephrased certain expression, used proper Markush group format, and corrected certain clerical errors as Examiner suggested". However, with regards to the rejection of claim 12 (and claims dependent thereon) i.e. the definition of R_1 and R_2 where R_1 and R_2 are substituted or not by one or several **alkyl groups in C_1 - C_4** this is not so. It is not known what is meant by alkyl groups in C_1 - C_4 .

Claims 23-25, 27-29, 31-36, 38-40 and 42-44 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. For reasons of record and stated above.

- r) The applicants' stated that the "Applicant has rephrased certain expression, used proper Markush group format, and corrected certain clerical errors as Examiner suggested". However, with regards to the rejection of claim 14, i.e. the definition of Y_2 where Y_2 is oxygen, lacks antecedent basis. The definition of Y_2 in claim 23 and 34 is such that Y_2 represents a NH group, or a nitrogen atom in a saturated or unsaturated heterocyclic group having 5 to 7 ring members.

Claims 25 and 36 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. For reasons of record and stated above.

Art Unit: 1624

ag) The applicants' stated that "there was a high level of skill of art at the time the application was filed and all methods needed to practice the invention were well known" and that "it is well known in the art that a thromboxan A2 relates to cardio-vascular and blood, pulmonary, reproduction and renal diseases and an inhibitor to a thromboxan A2 provided treatment for these diseases". For example claims 33 and 44 generically claims the method for binding to a thromboxan A2 receptor. The rejection of claims 21 and 22 was on the grounds that they are indefinite, in that it is not known which diseases are capable of being responsive to the thromboxan A2 receptor. The scope of diseases and/or disorders associated with the thromboxan A2 receptor could alter over time. The applicants' are not entitled to preempt the efforts of others.

Claims 31-33 and 42-44 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. For reasons of record and stated above.

4. The applicant's amendments and arguments are sufficient to overcome the 35 U.S.C. § 101 rejection, labeled paragraph 4 in the last office action, which is hereby **withdrawn**.

5. The applicant's amendments and arguments are sufficient to overcome the 35 U.S.C. § 102, anticipation rejections labeled paragraphs 5-8 in the last office action, which are hereby **withdrawn**.

Art Unit: 1624

In view of the amendment dated September 2, 2003, the following new grounds of rejection and/or reinstated rejections apply:

Claim Rejections - 35 U.S.C. § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 23, 24, 28, 29, 31-35, 39, 40 and 42-44 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The definition of Y_2 , where Y_2 includes the moiety “a nitrogen atom in a saturated or unsaturated heterocyclic group having 5 to 7 ring members” in claims 23 and 34 is not defined in the specification with respect to the genus of Formula (I).

Applicant is required to cancel the new matter in the reply to this Office action.

7. Claims 23-25, 27-29, 31-36, 38-40 and 42-44 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The definition of R_1 and R_2 , where R_1 and R_2 includes the moiety “saturated or unsaturated radio-labeled linear or branched alkyl

Art Unit: 1624

group with 2 to 12 carbon atoms” in claims 23 and 34 is not defined in the specification with respect to the genus of Formula (I).

Applicant is required to cancel the new matter in the reply to this Office action.

8. Claims 30 and 41 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The amendment to the second and third species, where the second and third species are N-cyano-N'-[(2-cyclohexylamino-5-nitrobenzene)sulfonyl]homopiperidinoamidine and N-[(2-cyclohexylamino-5-nitrobenzene)sulfonyl]N'-cyclohexyl thiourea are not defined in the specification with respect to the genus of Formula (I).

Applicant is required to cancel the new matter in the reply to this Office action.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 23-44 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The following reasons apply:

Art Unit: 1624

- a) Claims 23-44 are vague and indefinite in that it is not known what is meant by “derivative”. “Derivative” in claims 23-44 implies more than what is positively recited. “Compound” is suggested.
- b) Claims 23 and 34 (and claims dependent thereon) are vague and indefinite in that it is not known what is meant by the definition of Z where Z is -N-CN or -CH-NO₂. Z is a divalent moiety, it is believed that the applicants intended =N-CN or =CH-NO₂.
- c) Claims 23 and 34 (and claims dependent thereon) are vague and indefinite in that it is not known what is meant by the definition of R₁ in the proviso where R₁ represents an “element”.
- d) Claims 23 and 34 (and claims dependent thereon) are vague and indefinite in that it is not known what is meant by the definition of R₁ in the proviso where R₁ is “cyclooctyl”. It is believed that the applicants intended cyclooctyl.
- e) Claims 23 and 34 (and claims dependent thereon) are vague and indefinite in that it is not known what is meant by the species excluded at the end of claims 23 and 34, i.e. N-[(2-cyclooctylamino-5-cyanobenzene)sulfonyl] N'-isopropyl urea.
- f) Claims 24 and 35 (and claims dependent thereon) are vague and indefinite in that it is not known what is meant by the definition of X where X is an “element”.

Art Unit: 1624

- g) Claims 26 and 37 are vague and indefinite in that it is not known what is meant by the definition of R_1 and R_2 , where R_1 and R_2 represent each independently anadamantly..... It is believed that the applicants intended adamantyl.
- h) Claims 30 and 41 recite the limitation "cyclohexen-2-yl" in the fourth species. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

10. Claims 23, 24, 28, 29, 31, 34, 35, 39, 40 and 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Muller et al., U.S. 6,200,934. Muller teaches the compounds and compositions of the instant invention where Y_1-R_1 is pyrrolidinyl, morpholinyl, NEt_2 , $NHPr-n$, etc. and Y_2-R_2 is 4-methyl-3-(ethoxy)-5-oxo-1H-1,2,4-triazole, 4-methyl-3-(methylthio)-5-oxo-1H-1,2,4-triazole, 4-methyl-3-(ethyl)-5-oxo-1H-1,2,4-triazole, 4-methyl-3-(ethylthio)-5-oxo-1H-

Art Unit: 1624

1,2,4-triazole, 4-methyl-3-propyl-5-oxo-1H-1,2,4-triazole, 4-methyl-3-methyl-5-oxo-1H-1,2,4-triazole, etc. See examples 15-20, 24, 27-34, 39, etc.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brenda Coleman whose telephone number is (703) 305-1880. The examiner can normally be reached on Mondays from 8:30 AM to 5:00 PM, on Tuesdays from 8:00 AM to 4:30 PM, on Wednesday thru Friday from 9:00 AM to 5:30 PM.

The fax phone number for this Group is (703) 308-4734 for "unofficial" purposes and the actual number for **OFFICIAL** business is **308-4556**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1235.



Brenda Coleman
Primary Examiner AU 1624
December 8, 2003